Navy Case: 83,013

ABSTRACT

An aromatic ether oligomer or polyaromatic ether comprising the formula:

$$-\left(O-Ar\right)_{n}$$

wherein Ar is an independently selected divalent aromatic radical; formed by reacting a dihydroxyaromatic with a dihaloaromatic; and wherein the reaction is performed in the presence of a copper compound and cesium carbonate. The polyaromatic ether is formed when neither the dihydroxyaromatic nor the dihaloaromatic is present in an excess amount. The aromatic ether oligomer is formed by using an excess of either dihydroxyaromatic or dihaloaromatic. A phthalonitrile monomer comprising the formula:

formed by reacting a 3- or 4-nitrophthalonitrile with a hydroxy-terminated aromatic ether oligomer. A thermoset formed by curing the phthalonitrile monomer. Processes for forming all the above.